# Permit with introductory note

**NORTH EAST LINCOLNSHIRE COUNCIL**

## POLLUTION PREVENTION AND CONTROL ACT 1999
## Environmental Permitting Regulations 2016 (as amended)

**Installation address**

**Fowler & Holden (Grimsby) Ltd**
**Railway Street**
**Grimsby**
**North East Lincolnshire**
**DN32 7DB**

**Permit Reference: EP/200200008/V3**

## Introductory note

*This introductory note does not form a part of the Permit*

The following Permit is issued under Regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016 (S.I.2016 No.1154) ("the EP Regulations") to operate an installation carrying out one or more of the activities listed in Part 2 to Schedule 1 of those Regulations, to the extent authorised by the Permit.

The permit includes conditions that have to be complied with. It should be noted that aspects of the operation of the installation which are not regulated by those conditions shall be subject to best available techniques, used to prevent or, where that is not practicable, reduce emissions from the installation in relation to any aspect of the operation of the installation which is not regulated by any condition within the permit.

Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

## Confidentiality

The Permit requires the Operator to provide information to North East Lincolnshire Council. The Council will place the information onto the public registers in accordance with the requirements of the EP Regulations. If the operator considers that any information provided is commercially confidential, it may apply to North East Lincolnshire Council to have such information withheld from the register as provided in the EP Regulations. To enable North East Lincolnshire Council to determine whether the information is commercially confidential, the Operator should clearly identify the information in question and should specify clear and precise reasons.

## Variations to the permit

Your attention is drawn to the Variation Notification Procedure condition in the permit. This Permit may be varied in the future. If at any time the activity or any aspect of the activity regulated by the following conditions changes such that the conditions no longer reflect the activity and require alteration, the Regulator should be contacted.

## Surrender of the permit

Where an Operator intends to cease the operation of an installation (in whole or in part) the regulator should be informed in writing, such notification must be made as specified in regulation 24(3) of the EP regulations.

## Transfer of the permit or part of the permit

Before the Permit can be wholly or partially transferred to another person, a joint application to transfer the Permit has to be made by both the existing and proposed holders, in accordance with Regulation 21 of the EP Regulations. A transfer will be allowed unless the Authority considers that the proposed holder will not be the person who will have control over the operation of the installation or will not ensure compliance with the conditions of the transferred Permit.

## Responsibility under workplace health and safety legislation

This Permit is given in relation to the requirements of the EP regulations. It must not be taken to replace any responsibilities you may have under Workplace Health and Safety legislation.

## Appeal against permit conditions

Right to Appeal
You have the right of appeal against this permit within 6 months of the date of the decision. The Council can tell you how to appeal. You will normally be expected to pay your own expenses during an appeal.
You will be liable for prosecution if you fail to comply with the conditions of this permit. If found guilty, the maximum penalty for each offence if prosecuted in a Magistrates Court is £50,000 and/or 6 months imprisonment. In a Crown Court it is an unlimited fine and/or 5 years imprisonment.

Our enforcement of your permit will be in accordance with the Regulators "Compliance Code."

Anyone who is aggrieved by the conditions attached to a Permit can appeal to the Secretary of State for the Environment, Food and Rural Affairs. Appeals must be made in accordance with the requirements of Regulation 31 and Schedule 6 of the EP Regulations.

Appeals should be received by the Secretary of State for Environment, Food and Rural Affairs. The address is as follows:

The Planning Inspectorate
Environmental Team, Major & Specialist Casework
Room 4/04 – Kite Wing
Temple Quay House
2 The Square, Temple Quay
BRISTOL
BS1 6PN
Tel: 0117 372 8726
Fax: 0117 372 8139

## Please Note

An appeal brought under Regulation 31 (1) (b) and Schedule 6, in relation to the conditions in a permit will not suspend the effect of the conditions appealed against; the conditions must still be complied with.
In determining an appeal against one or more conditions, the Act allows the Secretary of State in addition to quash any of the conditions not subject to the appeal and to direct the local authority either to vary any of these other conditions.

**End of introductory note**

**Permit issued under the Environmental Permitting Regulations (England and Wales) 2016 (as amended)**

**Permit**

**Permit Ref. No:** EP/200200008/V3

North East Lincolnshire Council (the Regulator) in exercise of its powers under Regulation 13(1) of the Environmental Permitting Regulations 2016 (S.I.2016 No.1154) hereby permits.

**Fowler and Holden Ltd** ("the operator"),

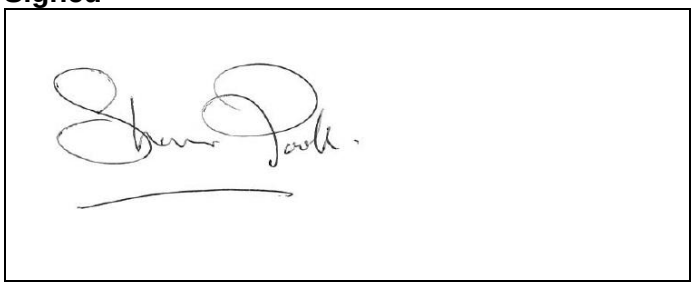
Whose registered office is:
**Fowler and Holden Ltd**
**Railway Street**
**Grimsby**
**North East Lincolnshire**
**DN32 7DB**

Company Registration. no: **02766585**

To operate an installation at:
**Fowler and Holden Ltd**
**Railway Street**
**Grimsby**
**North East Lincolnshire**
**DN32 7DB**

to the extent authorised by and subject to the conditions of this Permit and within the boundary identified in Appendix 1, installation boundary.

**Signed**



Shaun Poole
Senior Environmental Protection Officer

Authorised to sign on behalf of
North East Lincolnshire Council

**Dated**

Tuesday, 21 September 2021

### Activity description

**Foundry Process** as prescribed by Section 2.2 Part B of Schedule I of the Environmental Permitting (England and Wales) Regulations 2016 (as amended). Fowler and Holden Ltd operate an Iron, Steel and Non-Ferrous Metal Foundry process.

Fowler and Holden Ltd utilise a variable frequency Inductotherm VIP electric induction furnace of nominal capacity 0.5 tonnes. Pig iron and clean (grade 1) steel scrap is used for the production of small and medium sized castings. Moulds are made of chemically bonded (Furan or Alphaset) sand. Cores are made in the same chemically bonded sand.

The sand is reclaimed in a reclamation plant fitted with bag filters and is transported via enclosed pipes to silos fitted with bag filters for storage. A proportion of the reclaimed sand is then passed to a thermal reclamation plant which reprocesses this sand into new sand, with VOC's treated through combustion at high temperatures. Emission are dispersed via a 10m high stack together with attrition via bag filters.

Castings are all produced within the main building with extraction systems that release air within.

The installation boundary and key items of equipment mentioned in permit conditions are shown in the plan attached to this permit.

### Conditions

## Emissions and monitoring

1. No visible emissions of airborne dust or accumulations of particulate matter from the process or its operation shall be emitted beyond the installation boundary.

2. Visual and olfactory assessments of emissions shall be made frequently, and at least once a day during operations. The time, location and result of these assessments shall be recorded. Visual assessment of emissions of particulate matter from the furnace roof extractors, sand reclamation filter units, return silo filter unit, double ended grinder fettling booth and the rotary barrel shot blast cabinet filter unit shall be made frequently and at least once a day when operational. The results of this assessment shall be recorded in the log book required to be kept in accordance with condition 6.

3. Emissions from combustion processes in normal operation should be free from visible smoke. During start up and shut down the emissions should not exceed the equivalent of Ringelmann Shade 1 as described in British Standard BS 2742.
    - All other releases to air, other than condensed water vapour, should be free from persistent visible emissions.
    - All emissions to air should be free from droplets.

4. All emissions to air from the permitted installation shall be free from offensive odour, as perceived by a Duly Authorised Officer of North East Lincolnshire Council, outside the site boundary.

However, it shall not be a breach of the condition in a particular case if the operator can show that all reasonable steps had been taken and due diligence exercised to prevent the release of offensive odour. The use of the words 'due diligence' in this condition means that there shall not be a breach of the condition if the operator can demonstrate he/she employed BAT.

5. All activities shall comply with the emission limits and provisions with regard to releases in **Table 1**.

   The reference conditions for limits in **Table 1** are 273.1K, 101.3kPa and the oxygen and water references should be that which corresponds to the normal operating conditions in the process concerned.

## Table 1 – Emission limits, monitoring and other provisions

| Substance | Source | Emission limits / provisions | Type of monitoring | Monitoring Frequency |
|---|---|---|---|---|
| All emissions to air | All emissions to air, except emissions from:<br>• condensed water vapour.<br>• nodularisation | Free from persistent visible emissions | Visual assessments | At least daily (unless fitted with a continuous indicative monitor and alarm) |
| Total particulate matter | Nodularisation processes | Visible emissions should not cross the site boundary | Visual assessments | At least daily |
| Total particulate matter | Emissions from arrestment equipment with an airflow of less than 150m3/minute | Free from persistent visible emissions | Indicative monitoring e.g. pressure drop indicator or burst bag detector | At least daily |
| Total particulate matter | Stack emissions with an air flow greater than 150m3/minute where emissions are:<br>• unabated (see Note 2)<br>• from dry filtration plant<br>• from new wet arrestment plant. | 20 mg/m3 | Indicative continuous emissions monitoring with alarms (for airflow greater than 300m3/minute, see Note 3)<br><br>Plus<br><br>Manual extractive test | Continuous<br><br>Plus<br><br>Annual |

| | | | | |
|---|---|---|---|---|
| Total particulate matter | Silo filtration plant | Designed to operate to an emission standard of less than 10mg/m3 | Visual assessments | At least daily and during bulk deliveries |
| VOC<br><br>Formaldehyde<br>Phenol | Processes likely to emit VOCs e.g. thermal sand reclamation systems, solvent based investment foundry coating, shelling and setting operations | 30 mg/m3 | Manual extractive test – method to be agreed in writing with the Regulator | Annual |
| Hydrogen sulphide | Processes likely to emit hydrogen sulphide | 5ppm v/v | Manual extractive test | Annual |

## Monitoring, investigating and reporting

6. The operator shall keep records of inspections, tests and monitoring, including all non-continuous monitoring, inspections and visual assessments. The records shall be:
   - kept on site
   - kept by the operator for at least two years; and
   - made available for the regulator to examine

7. If any records are kept off-site they shall be made available for inspection within one working week of any request by the regulator.

## Information required by the regulator

8. The operator shall notify the regulator at least 7 days before any periodic monitoring exercise to determine compliance with emission limit values. The operator shall state the provisional time and date of monitoring, pollutants to be tested and the methods to be used.

9. The results of non-continuous emission testing shall be forwarded to the regulator within 8 weeks of completion of the sampling.

10. Adverse results from any monitoring activity (both continuous and non-continuous) shall be investigated by the operator as soon as the monitoring data has been obtained. The operator shall:
    - identify the cause and take corrective action
    - clearly record as much detail as possible regarding the cause and extent of the problem, and the action taken by the operator to rectify the situation
    - re-test to demonstrate compliance as soon as possible; and

- inform the regulator of the steps taken and the re-test results

## Emissions of odour

11. Should DMEA (dimethyl ethyl amine) or TEA (triethylamine) be used in binder systems notification shall be given in writing to the Regulator and method of abatement shall be agreed prior to use at the site.

    Emissions from core or mould making processes and casting processes shall, where necessary to avoid offensively odorous emissions, be passed through suitable abatement plant such as chemical scrubbers or incinerators, and ducted to a stack capable of being monitored in accordance with the requirements of **Table 1** of this Permit.

12. Where there are odour problems that, in the opinion of the regulator, may be attributable to the installation, such as local complaints of odour or where odour from the installation is being detected beyond the site boundary, the operator shall investigate in order to find out which part of their operation(s) is the cause. Odour boundary checks shall be made at least once per day/shift, by the operator, when an installation is being operated. The time, location and result of these checks, along with weather conditions such as indicative wind direction and strength, shall be recorded. Once the source of the emission is known, corrective action shall be taken without delay. Actions that may be considered include an increase in stack height (where a stack has been identified as the cause of the offensive odour), a change in the manufacturing procedure to reduce odour and/or abatement.

## Abnormal events

13. In the case of abnormal emissions, malfunction or breakdown leading to abnormal emissions the operator shall:
    - investigate and undertake remedial action immediately
    - adjust the process or activity to minimise those emissions; and
    - promptly record the events and actions taken

14. The regulator shall be informed without delay, whether or not there is related monitoring showing an adverse result:
    - if there is an emission that is likely to have an effect on the local community; or
    - in the event of the failure of key arrestment plant, for example, bag filtration plant or scrubber units.

15. The operator shall provide a list of key arrestment plant and shall have a written procedure for dealing with its failure, in order to minimise any adverse effects.

## Calibration and compliance monitoring

16. For batch processes, where the production operation is complete within, say, 2 hours, then the extractive sampling shall take place over a complete cycle of the activity.

17. For extractive testing, no result of monitoring shall exceed the emission limit concentrations specified in Table 1.

18. The introduction of dilution air to achieve emission concentration limits should not be permitted.

19. Sampling points on new plant shall be designed to comply with the British or equivalent standards.

20. The operator shall ensure that relevant stacks or ducts are fitted with facilities for sampling which allow compliance with the sampling standards.

## Emissions from silos

21. When delivery to a silo or bulk storage tank takes place, displaced air shall either be vented to suitable arrestment plant (for example cartridge/bag filters) or back-vented to the delivery tanker, in order to minimise emissions. Arrestment plant fitted to silos shall be of sufficient size (and kept clean) to avoid pressurisation during delivery.

22. The virgin sand silos shall be equipped with an audible or visual high level alarm which will warn of overfilling. The correct operation of the alarm shall be checked at least once every three months and the results recorded in accordance with condition 6. When necessary, corrective action shall be taken to ensure the proper working operation of the alarm.

23. The reclaimed sand silo shall be fitted with an automatic system to cut off delivery in the event of over filling or pressurisation.

24. All pipe work conveying sand to or from the sand storage silos shall be free of leaks.

25. The fitting of pressure relief valves will help to minimise damage to arrestment plant if the silo becomes pressurised due to the blinding of filters. Seating of pressure relief valves, where fitted to silos, shall be checked at least once a week or before a delivery takes place, whichever is the longer interval. Immediately if it appears that the valve may have become unseated, the delivery shall cease and no further delivery shall take place. The valve shall be examined and re-seated if necessary.

26. In order that fugitive emissions are minimised during the charging of silos, care shall be taken to ensure that the transfer lines are securely connected to the tanker discharge point and the silo delivery inlet point.

27. If emissions of particulate matter are visible from ducting, pipework, the pressure relief valve or dust arrestment plant during silo filling, the

operation shall cease; the cause of the problem shall be rectified prior to further deliveries taking place. Tanker drivers shall be informed of the correct procedure to be followed.

28. Operators shall have a procedure in place to ensure that visual assessment of emissions from silo inlet connections and the silo arrestment plant are undertaken throughout the duration of all bulk deliveries. The start and finish times of all deliveries shall be recorded.

29. Filtration plant shall be inspected at the frequency specified in Table 2.

**Table 2 - Filter plant inspection frequency**

| Filter cleaning method | Frequency of visual inspection |
|---|---|
| Fitted with reverse jets | At least once a month |
| Fitted with mechanical shakers | At least once a week |
| Requiring manual shaking | Daily inspection or prior to any delivery being made if deliveries are not daily |

## Control techniques

30. All new and reclaimed sand stored externally shall be stored in purpose built enclosed silos or hoppers.

31. Sand storage silos shall be fitted with particulate matter arrestment equipment to prevent emissions during sand delivery and transfer. Such arrestment equipment shall be maintained in such a manner as to prevent visible emissions to the air of particulate matter.

32. All new plant shall be contained such that emissions are extracted and ducted to a single emission point that is designed so that monitoring can take place in accordance with Table 1 of this Permit.

33. Emissions shall be abated where necessary to meet the limits and provisions described in Table 1.

34. Finishing processes (including, for example, grinding, shotblasting, polishing, and arc air-cutting) shall be undertaken in booths or areas with extraction of emissions or using equipment incorporating built in extraction equipment. Any extraction venting outside the building shall discharge via arrestment plant to meet the emission limits in Table 1.

35. All emissions from foundry sand reclamation processes shall be contained, captured and where necessary vented to suitable arrestment plant to meet Table 1 of this Permit.

## VOC and odour control

36. An inventory of organic solvents usage shall be maintained.

37. Where organic solvents based cleaning and degreasing is undertaken, the relevant standards in PG6/45 - surface cleaning, shall apply.

38. The use of odour masking agents and counteractants shall not be permitted.

39. Emissions from local exhaust ventilation from any casting, cooling and knockout areas shall be abated if necessary to meet the provisions of Table 1.

40. Binder chemical additions shall be minimised to the greatest extent possible. Records shall be kept of the level of necessary binder addition.

41. Emissions from mould and core production (including mixing operations) should be discharged via a suitable arrestment plant where necessary to meet the provisions of this note.

42. Burners in mould and core making equipment shall be regularly inspected and maintained and appropriate records kept.

## Fugitive emissions

43. All processes likely to emit into the air any particulate matter (for example oxy fuel cutting, burning off of casting residues, casting and knocking out) but excluding the storage and transfer of raw materials, shall be undertaken in an enclosed area or building of suitable construction to minimise emissions to air and meet the provisions of Table 1.

44. Correctly designed extraction systems shall be used where necessary to achieve the limits and provisions of Table.

## Materials handling

45. All dusty or potentially dusty materials shall be stored in silos, in confined storage areas within buildings, or in fully enclosed containers / packaging. Where the storage is open within a building, then suitable precautions shall be taken to prevent wind whipping. Dusty wastes shall be handled in a manner that avoids emissions of dust.

46. All new or reclaimed dry sand stored outside shall be stored in purpose built silos, sealed bags, or closed containers.

47. The method of collection of waste from dry arrestment plant shall be such that dust emissions are minimised.

48. External surfaces of the process building, ancillary plant and open yards and storage areas shall be inspected at least annually and cleaned if necessary to prevent the accumulation of dusty material in circumstances where the

dust may become wind entrained. Particular attention shall be paid to roofs, guttering, roadways, external storage areas and yards. Cleaning operations shall be carried out by methods which minimise emissions of particulate matter to air.

49. A high standard of housekeeping shall be maintained.

50. All spillages shall be cleared as soon as possible; solids by vacuum cleaning, wet methods, or other appropriate techniques. Dry sweeping of dusty spillages shall not be permitted in circumstances where it may result in the generation of airborne dust outside any building.

## Stacks, vents and process exhausts

51. Flues and ductwork shall be cleaned to prevent accumulation of materials, as part of the routine maintenance programme.

## Training

52. All staff whose functions could impact on air emissions from the activity shall receive appropriate training on those functions. This shall include:
    - awareness of their responsibilities under the permit;
    - steps that are necessary to minimise emissions during start-up and shutdown;
    - actions to take when there are abnormal conditions, or accidents or spillages that could, if not controlled, result in emissions.

53. The operator shall maintain a statement of training requirements for each post with the above mentioned functions and keep a record of the training received by each person. These documents shall be made available to the regulator on request.

## Maintenance

54. Effective preventative maintenance plays a key part in achieving compliance with emission limits and other provisions. All aspects of the process including all plant, buildings and the equipment concerned with the control of emissions to air shall be properly maintained. In particular:
    - The operator shall have the following available for inspection by the regulator:
    - a written maintenance programme for all pollution control equipment; and
    - a record of maintenance that has been undertaken.

## Best available techniques

55. The best available techniques shall be used to prevent or, where that is not practicable, reduce emissions from the installation in relation to any aspect of

the operation of the installation which is not regulated by any other condition of this permit.

56. If the operator proposes to make a change in operation of the installation, he must, at least 14 days before making the change, notify the regulator in writing. The notification must contain a description of the proposed change in operation. It is not necessary to make such a notification if an application to vary this permit has been made and the application contains a description of the proposed change. In this condition “change in operation” means a change in the nature or functioning, or an extension of the installation, which may have consequences for the environment.

**End of Permit**

## Appendix 1 – Installation boundary

The operator is authorised to carry out the activities and/or associated as specified and within the boundary shown in red on the plan below